

SEQUENCE LISTING

<110> Chen, Jingcai
Kuei, Chester
Liu, Changlu
Lovenberg, Timothy W.
Sillard, Rannar W.
Sutton, Steven W.

<120> RELAXIN3-GPCR 135 COMPLEXES AND THEIR PRODUCTION AND USE

<130> PRD2045NP-US

<150> US 60/451,702
<151> 2003-03-04

<160> 28

<170> PatentIn version 3.2

<210> 1
<211> 40
<212> DNA
<213> Primer

<400> 1
acagctcgag gccaccatgc agatggccga tgcagccacg 40

<210> 2
<211> 39
<212> DNA
<213> Primer

<400> 2
acatcatcta gatcagtagg cagagctgct gggcagcag 39

<210> 3
<211> 45
<212> DNA
<213> Primer

<400> 3
acgatactcg aggccaccat gcaggtggct tctgcaaccc ccgcg 45

<210> 4
<211> 41
<212> DNA
<213> Primer

<400> 4
actagatcta gatcagtagg cagagctact agggagcagg t 41

<210> 5
<211> 47
<212> DNA
<213> Primer

<400> 5
acgatactcg aggccaccat gcccaaagcg cacctgagca tgcaagt 47

<210> 6
<211> 41
<212> DNA
<213> Primer

<400> 6
acgatatcta gatcagtagg cagagctgct agggagaagg t 41

<210> 7
<211> 45
<212> DNA
<213> Primer

<400> 7
acgatactcg aggccaccat gcaagtggct tctgcaacca ccgca 45

<210> 8
<211> 1410
<212> DNA
<213> Homo sapiens

<400> 8
atgcagatgg ccgatgcagc cacgatagcc accatgaata aggcagcagg cggggacaag 60
ctagcagaac tcttcagtct ggtcccggac cttctggagg cggccaacac gagtggtaac 120
gcgtcgctgc agcttccgga cttgtggtgg gagctggggc tggagttgcc ggacggcgcg 180
ccgccaggac atccccggg cagcggcggg gcagagagcg cggacacaga ggcccgggtg 240
cggattctca tcagcgtggt gtactgggtg gtgtgcgccc tggggttggc gggcaacctg 300
ctggttctct acctgatgaa gagcatgcag ggctggcgca agtcctctat caacctcttc 360
gtcaccaacc tggcgctgac ggactttcag tttgtgctca ccctgccctt ctgggcgggtg 420
gagaacgctc ttgacttcaa atggcccttc ggcaaggcca tgtgtaagat cgtgtccatg 480
gtgacgtcca tgaacatgta cgccagcggtg ttcttcctca ctgccatgag tgtgacgcgc 540
taccattcgg tggcctcggc tctgaagagc caccggaccc gaggacacgg ccggggcgac 600
tgctgcggcc ggagcctggg ggacagctgc tgcttctcgg ccaaggcgct gtgtgtgtgg 660
atctgggctt tggccgcgct ggcctcgctg cccagtgcc ttttctccac cacggtcaag 720
gtgatgggcg aggagctgtg cctggtgcgt ttcccggaca agttgctggg ccgcgacagg 780
cagttctggc tgggcctcta ccactcgagc aagggtgctg tgggcttcgt gctgccgctg 840
ggcatcatta tcttgtgcta cctgctgctg gtgcgcttca tcgccgaccg ccgcgcggcg 900
gggaccaaag gaggggcccgc ggtagccgga ggacgcccga ccggagccag cggccggaga 960
ctgtcgaagg tcaccaaata agtgaccatc gttgtcctgt cttcttcctt gtgttggtg 1020
cccaaccagg cgctcaccac ctggagcatc ctcatacaagt tcaacgcggt gcccttcagc 1080
caggagtatt tcctgtgcca ggtatacgcg ttccctgtga gcgtgtgcct agcgactcc 1140
aacagctgcc tcaaccccgt cctctactgc ctcgtgcgcc gcgagttccg caaggcgctc 1200
aagagcctgc tgtggcgcat cgcgtctcct tcgatcacca gcatgcgcc cttcacgcc 1260
actaccaagc cggagcacga ggatcagggg ctgcaggccc cggcgccgcc ccacgcggcc 1320
gcggagccgg acctgctcta ctaccacct ggcgtcgtgg tctacagcgg ggggcgctac 1380
gacctgctgc ccagcagctc tgcctactga 1410

<210> 9
 <211> 1419
 <212> DNA
 <213> Mouse

<400> 9
 atgcaggtgg cttctgcaac ccccgcggcc accgtgagga aagcagctgc gggatgatgag 60
 ctctcagaat tcttcgctct gaccccagac ttgctggaag tggccaacgc cagcggcaat 120
 gcgtcgtgc agcttcagga tctgtggtgg gagctggggc tagagttgcc agacgggtgcg 180
 gcgcctgggc atcctccggg tggcggcggg gcagagagca cagacactga ggccagggtta 240
 cggatcctca tcagcgcggt ttactgggtg gtttgtgccc tgggactggc cggcaacctg 300
 ctggttctct acctgatgaa gagcaagcaa ggctggcgca aatcctccat caacctcttt 360
 gtcactaacc tggcactgac tgactttcag ttcgtgctca ctctgccctt ttgggctgtg 420
 gagaacgcac tagacttcaa gtggcccttc ggcaaggcca tgtgtaagat cgtgtccatg 480
 gtgacatcca tgaacatgta cgccagcgtc ttcttcctca ctgctatgag cgtggcgcg 540
 taccactcgg tggcctcggc tctcaagagc catcggaccc gagggcgtgg ccgtggcgac 600
 tgctgcggcc agagcttgag ggagagctgc tgtttttcag ccaagggtgct gtgtgggttg 660
 atctgggctt cggtgcgct ggcctcgtg cccaatgcc tttttccac caccatcagg 720
 gtgttgggtg aggagctctg cctcatgcac ttccagaca agctactggg ctgggacagg 780
 cagttctggc tgggtttgta ccacctgcag aagggtgctg tgggcttcct gctgccgctg 840
 agcatcatca gtctgtgtta cctgttgctt gtgcgcttca tctccgaccg tcgcgtagtt 900
 gggacaacag atgcagtagg agcagcagca gcgcctgggg gaggcctgag tacagccagc 960
 gctaggagac gctccaaggt caccaagtcg gtgaccatcg tcgtcctctc cttcttcctg 1020
 tgttggctgc ccaaccaggc gcttaccacc tggagcatcc tcatcaagtt caacgccgctg 1080
 cccttcagcc aggagtactt tcagtgccaa gtgtacgcgt tcccagtcag cgtgtgcctg 1140
 gcgcactcca acagctgcct caacccgatc ctctactgct tagtgcgccg cgagttccgc 1200
 aaggcgctca agaacctgct gtggcggata gcctcgcctt cgctcaccaa catgcgccct 1260
 ttcaccgcca ccaccaagcc agaacctgaa gatcacgggc tgcaggccct ggcgccgctt 1320
 aatgctgctg ccgaacctga cctgatctac tatccacccg gtgtggtggt ctacagcggg 1380
 ggtcgctacg acctgctccc tagtagctct gcctactga 1419

<210> 10
 <211> 1431
 <212> DNA
 <213> Rat

<400> 10
 atgccc aaag cgcacctgag catgcaagt gcttctgcaa ccaccgcagc ccccatgagt 60
 aaggcagctg cgggtgatga gctctccgga ttcttcggcc tgatcccaga cttgctggag 120
 gttgccaaca ggagcagcaa tgcgtcgctg cagcttcagg acttggtggtg ggagctgggg 180
 ctggagttgc ccgacgggtg ggcgcctggg catcccccg gcagcgggtg ggcagagagc 240

gcggacacag	aggccagggg	acggatcctc	atcagcgccg	tttactgggt	ggtttgtgcc	300
ctgggactgg	ctggcaacct	gctggttctc	tacctgatga	agagcaaaca	gggctggcgc	360
aaatcctcca	ttaacctctt	tgctactaac	ctggcgctga	ctgactttca	gtttgtgctc	420
actctgccct	tctgggcggt	ggagaacgca	ctagatttca	agtggccctt	tggcaaggcc	480
atgtgtaaga	tcgtatctat	ggtgacatcc	atgaacatgt	atgccagcgt	cttctttctc	540
actgctatga	gtgtggcgcg	ctaccactcg	gtggcctcag	ctctcaagag	ccatcggacc	600
cgcgggcatg	gccgtggcga	ctgctgcggc	cagagcttgg	gggagagctg	ctgtttctca	660
gccaaaggc	tgtgtggatt	gatctgggct	tctgccgcga	tagcttcgct	gccaatgtc	720
atTTTTTcta	ccaccatcaa	tgtgttgggc	gaggagctgt	gcctcatgca	ctttccggac	780
aagctcctgg	gttgggaccg	gcagttctgg	ctgggtttgt	accacctgca	gaagggtgctg	840
ctgggcttcc	tgctgccgct	gagcatcatc	agtttgtgtt	acctgttgct	cgtgcgcttc	900
atctccgacc	gccgcgtagt	ggggacaacg	gatggagcaa	cagcgcctgg	ggggagcctg	960
agtacagccg	gcgctcggag	acgctccaag	gtcaccaagt	cggtgaccat	cgtagtcctt	1020
tccttcttct	tatgttggt	gccaaccaaa	gcgctcacca	cctggagcat	cctcatcaag	1080
ttcaacgtag	tgcccttcag	tcaggagtac	tttcagtgcc	aagtgtacgc	gttcccagtc	1140
agcgtgtgcc	tggcacactc	caacagctgc	ctcaacccca	tcctctactg	cttagtgcg	1200
cgcgagttcc	gcaaggcgct	caagaacctg	ctgtggcgta	tagcatcgcc	ttcgtcacc	1260
agcatgcgcc	ccttcaccgc	caccaccaag	ccagaacctg	aagatcacgg	gctgcaggcc	1320
ctggcgccac	ttaatgctac	tgcagagcct	gacctgatct	actatccacc	cggtgtggtg	1380
gtctacagcg	gaggctcgta	cgaccttctc	cctagcagct	ctgcctactg	a	1431

<210> 11
 <211> 1410
 <212> DNA
 <213> Rat

<400> 11						
atgcaagtgg	cttctgcaac	caccgcagcc	cccatgagta	aggcagctgc	gggtgatgag	60
ctctccggat	tcttcggcct	gatcccagac	ttgctggagg	ttgccaacag	gagcagcaat	120
gcgtcgctgc	agcttcagga	cttgtggtgg	gagctggggc	tggagttgcc	cgacgggtgcg	180
gcgcctgggc	atcccccg	cagcgggtgg	gcagagagcg	cggacacaga	ggccagggtta	240
cggatcctca	tcagcgccgt	ttactgggtg	gtttgtgccc	tgggactggc	tggcaacctg	300
ctggttctct	acctgatgaa	gagcaaacag	ggctggcgca	aatcctccat	taacctcttt	360
gtcactaacc	tggcgctgac	tgactttcag	tttgtgctca	ctctgccctt	ctgggcgggtg	420
gagaacgcac	tagatttcaa	gtggcccttt	ggcaaggcca	tgtgtaagat	cgtatctatg	480
gtgacatcca	tgaacatgta	tgccagcgct	ttctttctca	ctgctatgag	tgtggcgcg	540
taccactcgg	tggcctcagc	tctcaagagc	catcggaccc	gcgggcatgg	ccgtggcgac	600
tgctgcggcc	agagcttggg	ggagagctgc	tgtttctcag	ccaagggtgct	gtgtggattg	660

atctgggctt	ctgccgcgat	agcttcgctg	cccaatgtca	ttttttctac	caccatcaat	720
gtgttggg	aggagctgtg	cctcatgcac	tttccggaca	agctcctggg	ttgggaccgg	780
cagtttctggc	tgggtttgta	ccacctgcag	aagggtgctgc	tgggcttcct	gctgccgctg	840
agcatcatca	gtttgtgtta	cctgttgctc	gtgcgcttca	tctccgaccg	ccgcgtagtg	900
gggacaacgg	atggagcaac	agcgccctggg	gggagcctga	gtacagccgg	cgctcggaga	960
cgctccaagg	tcaccaagtc	ggtgaccatc	gtagtccttt	ccttcttctt	atgttggtg	1020
cccaaccaag	cgctcaccac	ctggagcatc	ctcatcaagt	tcaacgtagt	gcccttcagt	1080
caggagtact	ttcagtgcc	agtgtacgcg	ttcccagtc	gcgtgtgcct	ggcacactcc	1140
aacagctgcc	tcaaccccat	cctctactgc	ttagtgcgcc	gcgagttccg	caaggcgctc	1200
aagaacctgc	tgtggcgat	agcatcgctc	tcgctcacca	gcatgcgccc	cttcaccgcc	1260
accaccaagc	cagaacctga	agatcacggg	ctgcaggccc	tggcgccact	taatgctact	1320
gcagagcctg	acctgatcta	ctatccaccc	ggtgtggtgg	tctacagcgg	aggtcgctac	1380
gaccttctcc	ctagcagctc	tgcttactga				1410

<210> 12
 <211> 469
 <212> PRT
 <213> Homo sapiens

<400> 12

Met Gln Met Ala Asp Ala Ala Thr Ile Ala Thr Met Asn Lys Ala Ala
 1 5 10 15

Gly Gly Asp Lys Leu Ala Glu Leu Phe Ser Leu Val Pro Asp Leu Leu
 20 25 30

Glu Ala Ala Asn Thr Ser Gly Asn Ala Ser Leu Gln Leu Pro Asp Leu
 35 40 45

Trp Trp Glu Leu Gly Leu Gly Leu Pro Asp Gly Ala Pro Pro Gly His
 50 55 60

Pro Pro Gly Ser Gly Gly Ala Glu Ser Ala Asp Thr Glu Ala Arg Val
 65 70 75 80

Arg Ile Leu Ile Ser Val Val Tyr Trp Val Val Cys Ala Leu Gly Leu
 85 90 95

Ala Gly Asn Leu Leu Val Leu Tyr Leu Met Lys Ser Met Gln Gly Trp
 100 105 110

Arg Lys Ser Ser Ile Asn Leu Phe Val Thr Asn Leu Ala Leu Thr Asp
 115 120 125

Phe Gln Phe Val Leu Thr Leu Pro Phe Trp Ala Val Glu Asn Ala Leu
 130 135 140

Asp Phe Lys Trp Pro Phe Gly Lys Ala Met Cys Lys Ile Val Ser Met
 145 150 155 160
 Val Thr Ser Met Asn Met Tyr Ala Ser Val Phe Phe Leu Thr Ala Met
 165 170 175
 Ser Val Thr Arg Tyr His Ser Val Ala Ser Ala Leu Lys Ser His Arg
 180 185 190
 Thr Arg Gly His Gly Arg Gly Asp Cys Cys Gly Arg Ser Leu Gly Asp
 195 200 205
 Ser Cys Cys Phe Ser Ala Lys Ala Leu Cys Val Trp Ile Trp Ala Leu
 210 215 220
 Ala Ala Leu Ala Ser Leu Pro Ser Ala Ile Phe Ser Thr Thr Val Lys
 225 230 235 240
 Val Met Gly Glu Glu Leu Cys Leu Val Arg Phe Pro Asp Lys Leu Leu
 245 250 255
 Gly Arg Asp Arg Gln Phe Trp Leu Gly Leu Tyr His Ser Gln Lys Val
 260 265 270
 Leu Leu Gly Phe Val Leu Pro Leu Gly Ile Ile Ile Leu Cys Tyr Leu
 275 280 285
 Leu Leu Val Arg Phe Ile Ala Asp Arg Arg Ala Ala Gly Thr Lys Gly
 290 295 300
 Gly Ala Ala Val Ala Gly Gly Arg Pro Thr Gly Ala Ser Ala Arg Arg
 305 310 315 320
 Leu Ser Lys Val Thr Lys Ser Val Thr Ile Val Val Leu Ser Phe Phe
 325 330 335
 Leu Cys Trp Leu Pro Asn Gln Ala Leu Thr Thr Trp Ser Ile Leu Ile
 340 345 350
 Lys Phe Asn Ala Val Pro Phe Ser Gln Glu Tyr Phe Leu Cys Gln Val
 355 360 365
 Tyr Ala Phe Pro Val Ser Val Cys Leu Ala His Ser Asn Ser Cys Leu
 370 375 380
 Asn Pro Val Leu Tyr Cys Leu Val Arg Arg Glu Phe Arg Lys Ala Leu
 385 390 395 400
 Lys Ser Leu Leu Arg Arg Ile Ala Ser Pro Ser Ile Thr Ser Met Arg
 405 410 415

Pro Phe Thr Ala Thr Thr Lys Pro Glu His Glu Asp Gln Gly Leu Gln
420 425 430

Ala Pro Ala Pro Pro His Ala Ala Ala Glu Pro Asp Leu Leu Tyr Tyr
435 440 445

Pro Pro Gly Val Val Val Tyr Ser Gly Gly Arg Tyr Asp Leu Leu Pro
450 455 460

Ser Ser Ser Ala Tyr
465

<210> 13
<211> 472
<212> PRT
<213> Mouse

<400> 13

Met Gln Val Ala Ser Ala Thr Pro Ala Ala Thr Val Arg Lys Ala Ala
1 5 10 15

Ala Gly Asp Glu Leu Ser Glu Phe Phe Ala Leu Thr Pro Asp Leu Leu
20 25 30

Glu Val Ala Asn Ala Ser Gly Asn Ala Ser Leu Gln Leu Gln Asp Leu
35 40 45

Trp Trp Glu Leu Gly Leu Glu Leu Pro Asp Gly Ala Ala Pro Gly His
50 55 60

Pro Pro Gly Gly Gly Gly Ala Glu Ser Thr Asp Thr Glu Ala Arg Val
65 70 75 80

Arg Ile Leu Ile Ser Ala Val Tyr Trp Val Val Cys Ala Leu Gly Leu
85 90 95

Ala Gly Asn Leu Leu Val Leu Tyr Leu Met Lys Ser Lys Gln Gly Trp
100 105 110

Arg Lys Ser Ser Ile Asn Leu Phe Val Thr Asn Leu Ala Leu Thr Asp
115 120 125

Phe Gln Phe Val Leu Thr Leu Pro Phe Trp Ala Val Glu Asn Ala Leu
130 135 140

Asp Phe Lys Trp Pro Phe Gly Lys Ala Met Cys Lys Ile Val Ser Met
145 150 155 160

Val Thr Ser Met Asn Met Tyr Ala Ser Val Phe Phe Leu Thr Ala Met
165 170 175

Ser Val Ala Arg Tyr His Ser Val Ala Ser Ala Leu Lys Ser His Arg
180 185 190

Thr Arg Gly Arg Gly Arg Gly Asp Cys Cys Gly Gln Ser Leu Arg Glu
 195 200 205
 Ser Cys Cys Phe Ser Ala Lys Val Leu Cys Gly Leu Ile Trp Ala Ser
 210 215 220
 Ala Ala Leu Ala Ser Leu Pro Asn Ala Ile Phe Ser Thr Thr Ile Arg
 225 230 235 240
 Val Leu Gly Glu Glu Leu Cys Leu Met His Phe Pro Asp Lys Leu Leu
 245 250 255
 Gly Trp Asp Arg Gln Phe Trp Leu Gly Leu Tyr His Leu Gln Lys Val
 260 265 270
 Leu Leu Gly Phe Leu Leu Pro Leu Ser Ile Ile Ser Leu Cys Tyr Leu
 275 280 285
 Leu Leu Val Arg Phe Ile Ser Asp Arg Arg Val Val Gly Thr Thr Asp
 290 295 300
 Ala Val Gly Ala Ala Ala Ala Pro Gly Gly Gly Leu Ser Thr Ala Ser
 305 310 315 320
 Ala Arg Arg Arg Ser Lys Val Thr Lys Ser Val Thr Ile Val Val Leu
 325 330 335
 Ser Phe Phe Leu Cys Trp Leu Pro Asn Gln Ala Leu Thr Thr Trp Ser
 340 345 350
 Ile Leu Ile Lys Phe Asn Ala Val Pro Phe Ser Gln Glu Tyr Phe Gln
 355 360 365
 Cys Gln Val Tyr Ala Phe Pro Val Ser Val Cys Leu Ala His Ser Asn
 370 375 380
 Ser Cys Leu Asn Pro Ile Leu Tyr Cys Leu Val Arg Arg Glu Phe Arg
 385 390 395 400
 Lys Ala Leu Lys Asn Leu Leu Trp Arg Ile Ala Ser Pro Ser Leu Thr
 405 410 415
 Asn Met Arg Pro Phe Thr Ala Thr Thr Lys Pro Glu Pro Glu Asp His
 420 425 430
 Gly Leu Gln Ala Leu Ala Pro Leu Asn Ala Ala Ala Glu Pro Asp Leu
 435 440 445
 Ile Tyr Tyr Pro Pro Gly Val Val Val Tyr Ser Gly Gly Arg Tyr Asp
 450 455 460

Leu Leu Pro Ser Ser Ser Ala Tyr
465 470

<210> 14
<211> 476
<212> PRT
<213> Rat

<400> 14

Met Pro Lys Ala His Leu Ser Met Gln Val Ala Ser Ala Thr Thr Ala
1 5 10 15

Ala Pro Met Ser Lys Ala Ala Ala Gly Asp Glu Leu Ser Gly Phe Phe
20 25 30

Gly Leu Ile Pro Asp Leu Leu Glu Val Ala Asn Arg Ser Ser Asn Ala
35 40 45

Ser Leu Gln Leu Gln Asp Leu Trp Trp Glu Leu Gly Leu Glu Leu Pro
50 55 60

Asp Gly Ala Ala Pro Gly His Pro Pro Gly Ser Gly Gly Ala Glu Ser
65 70 75 80

Ala Asp Thr Glu Ala Arg Val Arg Ile Leu Ile Ser Ala Val Tyr Trp
85 90 95

Val Val Cys Ala Leu Gly Leu Ala Gly Asn Leu Leu Val Leu Tyr Leu
100 105 110

Met Lys Ser Lys Gln Gly Arg Arg Lys Ser Ser Ile Asn Leu Phe Val
115 120 125

Thr Asn Leu Ala Leu Thr Asp Phe Gln Phe Val Leu Thr Leu Pro Phe
130 135 140

Trp Ala Val Glu Asn Ala Leu Asp Phe Lys Trp Pro Phe Gly Lys Ala
145 150 155 160

Met Cys Lys Ile Val Ser Met Val Thr Ser Met Asn Met Tyr Ala Ser
165 170 175

Val Phe Phe Leu Thr Ala Met Ser Val Ala Arg Tyr His Ser Val Ala
180 185 190

Ser Ala Leu Lys Ser His Arg Thr Arg Gly His Gly Arg Gly Asp Cys
195 200 205

Cys Gly Gln Ser Leu Gly Glu Ser Cys Cys Phe Ser Ala Lys Val Leu
210 215 220

Cys Gly Leu Ile Trp Ala Ser Ala Ala Ile Ala Ser Leu Pro Asn Val
Page 9

Met Gln Val Ala Ser Ala Thr Thr Ala Ala Pro Met Ser Lys Ala Ala
 1 5 10 15
 Ala Gly Asp Glu Leu Ser Gly Phe Phe Gly Leu Ile Pro Asp Leu Leu
 20 25 30
 Glu Val Ala Asn Arg Ser Ser Asn Ala Ser Leu Gln Leu Gln Asp Leu
 35 40 45
 Trp Trp Glu Leu Gly Leu Glu Leu Pro Asp Gly Ala Ala Pro Gly His
 50 55 60
 Pro Pro Gly Ser Gly Gly Ala Glu Ser Ala Asp Thr Glu Ala Arg Val
 65 70 75 80
 Arg Ile Leu Ile Ser Ala Val Tyr Trp Val Val Cys Ala Leu Gly Leu
 85 90 95
 Ala Gly Asn Leu Leu Val Leu Tyr Leu Met Lys Ser Lys Gln Gly Trp
 100 105 110
 Arg Lys Ser Ser Ile Asn Leu Phe Val Thr Asn Leu Ala Leu Thr Asp
 115 120 125
 Phe Gln Phe Val Leu Thr Leu Pro Phe Trp Ala Val Glu Asn Ala Leu
 130 135 140
 Asp Phe Lys Trp Pro Phe Gly Lys Ala Met Cys Lys Ile Val Ser Met
 145 150 155 160
 Val Thr Ser Met Asn Met Tyr Ala Ser Val Phe Phe Leu Thr Ala Met
 165 170 175
 Ser Val Ala Arg Tyr His Ser Val Ala Ser Ala Leu Lys Ser His Arg
 180 185 190
 Thr Arg Gly His Gly Arg Gly Asp Cys Cys Gly Gln Ser Leu Gly Glu
 195 200 205
 Ser Cys Cys Phe Ser Ala Lys Val Leu Cys Gly Leu Ile Trp Ala Ser
 210 215 220
 Ala Ala Ile Ala Ser Leu Pro Asn Val Ile Phe Ser Thr Thr Ile Asn
 225 230 235 240
 Val Leu Gly Glu Glu Leu Cys Leu Met His Phe Pro Asp Lys Leu Leu
 245 250 255
 Gly Trp Asp Arg Gln Phe Trp Leu Gly Leu Tyr His Leu Gln Lys Val
 260 265 270

Leu Leu Gly Phe Leu Leu Pro Leu Ser Ile Ile Ser Leu Cys Tyr Leu
275 280 285

Leu Leu Val Arg Phe Ile Ser Asp Arg Arg Val Val Gly Thr Thr Asp
290 295 300

Gly Ala Thr Ala Pro Gly Gly Ser Leu Ser Thr Ala Gly Ala Arg Arg
305 310 315 320

Arg Ser Lys Val Thr Lys Ser Val Thr Ile Val Val Leu Ser Phe Phe
325 330 335

Leu Cys Trp Leu Pro Asn Gln Ala Leu Thr Thr Trp Ser Ile Leu Ile
340 345 350

Lys Phe Asn Val Val Pro Phe Ser Gln Glu Tyr Phe Gln Cys Gln Val
355 360 365

Tyr Ala Phe Pro Val Ser Val Cys Leu Ala His Ser Asn Ser Cys Leu
370 375 380

Asn Pro Ile Leu Tyr Cys Leu Val Arg Arg Glu Phe Arg Lys Ala Leu
385 390 395 400

Lys Asn Leu Leu Trp Arg Ile Ala Ser Pro Ser Leu Thr Ser Met Arg
405 410 415

Pro Phe Thr Ala Thr Thr Lys Pro Glu Pro Glu Asp His Gly Leu Gln
420 425 430

Ala Leu Ala Pro Leu Asn Ala Thr Ala Glu Pro Asp Leu Ile Tyr Tyr
435 440 445

Pro Pro Gly Val Val Val Tyr Ser Gly Gly Arg Tyr Asp Leu Leu Pro
450 455 460

Ser Ser Ser Ala Tyr
465

<210> 16
<211> 17
<212> PRT
<213> Porcine

<400> 16

Asp Val Leu Ala Gly Leu Ser Ser Asn Lys Trp Gly Ser Lys Ser Glu
1 5 10 15

Ile

<210> 17
<211> 19

<212> PRT
<213> Porcine

<400> 17

Arg Ala Ser Pro Tyr Gly Val Lys Leu Gly Arg Glu Phe Ile Arg Ala
1 5 10 15

Val Ile Phe

<210> 18
<211> 45
<212> DNA
<213> Primer

<400> 18
acgatcgtcg acgccaccat ggccaggtag atgctgctgc tgctc 45

<210> 19
<211> 41
<212> DNA
<213> Primer

<400> 19
acgataaagc ttctagcaaa ggctactgat ttcacttttg c 41

<210> 20
<211> 52
<212> DNA
<213> Primer

<400> 20
acgatagaat tcgatgacga cgataagcgg gcagcgcctt acgggggtcag gc 52

<210> 21
<211> 44
<212> DNA
<213> Primer

<400> 21
actataggat ccctagcaaa ggctactgat ttcacttttg ctac 44

<210> 22
<211> 102
<212> DNA
<213> Oligo Nucleotide

<400> 22
ctgcaggccg ccatgctgac cgcagcgttg ctgagctgtg ccctgctgct ggcactgcct 60
gccacgcgag gagactacaa ggacgacgat gacaaggaat tc 102

<210> 23
<211> 40
<212> DNA
<213> Primer

<400> 23
acgatactgc aggccgccat gctgaccgca gcgttgctga 40

<210> 24
 <211> 45
 <212> DNA
 <213> Primer

 <400> 24
 cagccaggac atctcgtcgg ccccgaagaa cccaggggt tcctt 45

 <210> 25
 <211> 46
 <212> DNA
 <213> Primer

 <400> 25
 ggttcttcgg ggccgacgag atgtcctggc tggcctttcc agcagc 46

 <210> 26
 <211> 44
 <212> DNA
 <213> Primer

 <400> 26
 actataggat ccctagcaaa ggctactgat ttcacttttg ctac 44

 <210> 27
 <211> 44
 <212> DNA
 <213> Primer

 <400> 27
 gactagaagc ttgccacat ggagctgagg ccctggttgc tatg 44

 <210> 28
 <211> 40
 <212> DNA
 <213> Primer

 <400> 28
 gacgatagcg gccgcagtgg gctcatcaga gggcgctctg 40